**Atmospheric
Measurement
Techniques
Discussions**

Interactive comment on "An overview of measurement comparisons from the INTEX-B/MILAGRO airborne field campaign" *by* M. M. Kleb et al.

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This paper outlines the comparisons made between different instruments making observations of atmospheric composition during the INTEX-B (NASA) MILAGRO (NSF) missions. These comparison activities are absolutely essential if we are to have an understanding of the uncertainties inherent in making atmospheric observations. The PI assessed uncertainties for their instruments needed to be assessed in an alternative method such as the comparisons described here.

I am enormously supportive of the publication of this paper. However, I do have some suggestions outlined below and then a couple of corrections to the tables.

The paper contains no conclusions about instrument performance. It would be nice to make some statements about performance so that there can be some conclusions. In general it seems to me that those species which we would expect to work well (slopes of 1+/- 0.1) do (O3, H2O, NO, Hydrocarbons), some species have moderate performance (slopes of 1 +/- 0.25) (NO2, H2O2, HNO3) and some species have some significant issues (SO2, PAN, Oxygenates). I think it would be very useful for the community to have some sense of where we are with making observations. Grant applications could point to some statement in this paper to help obtain funding for future instrument improvements. I realise that there are 'political' issues with regard to making these statements but an objective definition of success based on slope (calibration) and R (noise) could help identify those species for which we have confidence of the observations and those species we do not. If the paper could do this I feel it would do service to the community.

There are no comments about whether the PI assessed uncertainties (when available) match with the differences observed between the observation. Is there closure between the different methods of assessing uncertainties?

For completeness the formula for the R2 value should be given.

There are a couple of issues with the tables. Table 2: sulfate and nitrate. No units in the uncertainty. Table 3. NMHC should be species with only H and C atoms. There are other species in here. Another term should be used. The Range column and contents does have any units. Is the uncertainty quoted 1 sigma? Why are Toluene, 3-ethyl-toluene etc in the particle number section. Table 5 SO2 isn't really a photochemical precursor... DMS, CHCl3 aren't really NMHC

So in general I think this is a great paper which provides a framework for future instrument comparisons. It should go the extra step to list species in categories by our ability to measure them, and to make some assessment of whether the PI uncertainty and the observed differences can match up.